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ABSTRACT

In response to criticism of a previous study, this paper reports a revision of a proposed phonics rule "when there are two vowels, one of which is a final e, the first vowel is long and the final e is silent" (cradle), which is called the VCE (Vowel Consonant E) rule. Following an introductory section, the paper examines previous research, citing studies that tested the utility of the VCE rule, most of which claimed the rule worked over 50% of the time. The third section deals with a new study, which analyzed words in the "New Grolier International Dictionary of the English Language" for applicability of the VCE rule. This section notes that the words in the study were divided into 12 categories according to many structural and orthographic variations, and that the study's results indicated that words children could most successfully apply the VCE rule to were (1) one syllable, two vowel words with VCE ending pattern (74% utility); (2) one syllable words ending with VCE, VCCE, VCCCE or VcdE (59%); (3) two vowel, one and two syllable words ending in VCE, VCCCE, and VcdE (vowel consonant digraph) (43%); and (4) all multisyllable words with the VCE ending pattern only (54%). The analysis section points out that dividing words into so many combinations of possibilities reveals only the first group has a utility ratio near 75% the accepted cut-off. The conclusion of the paper recommends that the VCE rule no longer be taught in reading classes. (SKC)

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ANOTHER STUDY OF THE PRONUNCIATION OF WORDS ENDING IN A
VOWEL-CONSONANT-FINAL E PATTERN AND SIMILAR PATTERNS

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This article reports on a major revision of a phonics utility study first reported in The Reading Teacher in December 1980, which you may wish to read (Greif, 1980). The response to that article was one of surprise, of general disbelief, and in a few cases, hostility. Everyone just knew the rule worked better than 53% of the time.

In order to reduce the wordiness of this report, several code symbols are used, and are defined as follows:

V = vowel

C = consonant

E = final e

cd = consonant digraph

thus,

VCE = vowel-consonant-final e, e.g. dike

VCCE = vowel-two consonant-final e, e.g. prince

VCCCE = vowel-three consonants-final e, e.g. castle

VcdE = vowel-consonant-digraph-final e, e.g. lathe

The research reported in 1980 had to do with the utility of the phonics rule, "When there are two vowels, one of which is a final e, the first vowel is long and the final e is silent (cradle),"¹ hereinafter called the "VCE Rule." In my previous research, I used only the VCE ending pattern, while others had used the VCCE ending pattern as well. I recall seeing some endings such as -ate, -ive, -ice, -ose, etc., on multisyllable words. These endings recurred frequently. Most of them were pronounced with something other than the long vowel sound, unaccented as they usually were. Should they have been dealt with separately? Would limiting the

¹Clymer's terminology and example

application of the rule to words with but two vowels make it more useful? Should I have used words with a VCCCE pattern, such as in the word, battle? Most children are taught that double consonants (as in the two letters tt in the word battle) should be regarded as one symbol when syllablizing and pronouncing. What about words such as nestle, which has two vowels and which children do see as a word on which to use the rule. I hadn't included those. Should the rule be limited to one syllable words? Questions such as these, which I and others asked, prompted me to undertake this major revision of the earlier research.

Previous Research

Some excellent research on the usefulness of phonics rules, including this VCE rule, was done in the 1960's and 1970's, but apparently hasn't been regarded as significant enough to cause changes in teaching methods.

With regard to the VCE Rule, Clymer, Bailey, Emans, Dzama, Affleck, Bieri, and Caldwell all did separate, but somewhat related research, all based on Clymer's wording of the rule. Before you read Table I for their results, here are a few facts about their projects.

Clymer used a list of some 2,600 words which were taken from the vocabularies of four basal reading series for the primary grades, plus words from the Primary Grades. Clymer did a second similar project, reported separately. Bailey used 5,773 words taken from the vocabulary of eight basal reading series, grades one through six. Emans used a list of 1,944 words, which were a 10%

random sample of the words rated grade five and above from the Teachers Wordbook of 30,000 Words by Thorndike and Lorge. Dzama used a list of 2,025 words made from a random sample of the acquired sight vocabulary of 225 first graders. Bieri used a list of 1,495 words taken from Feinstein's Programmed College Vocabulary 3600. Caldwell, et al. used the 18,000 most frequently used words from the 1967 Kucera-Francis list. Affleck used the first 6,000 words in Thorndike and Lorge's Teachers Wordbook of 30,000 Words, arranged into three different vocabularies pertinent to grades one through six. She applied the rule to both words and syllables, and assumed correct syllabification when needed. Greif used all 138,000 words which were entries in the New Grolier International Dictionary of the English Language. Findings of these researchers are shown in Table I.

Table I

Results from Previous Research on the
Utility of the VCE Phonics Rule

Researcher	Total VCE Words in Sample	Number Not Conforming	Number Conforming	% of Utility
Clymer (1961)	220	77	143	65%
Clymer (1963)	228	108	180	63%
Bailey (1976)	578	248	330	57%
Emans (1967)	59	22	37	63%
Affleck (1969) ¹				60-76%
Dzama (1975)	172	56	116	67%
Bieri (1977) ²				56%
Caldwell (1978)	2212	1271	941	42%
Greif (1980) ³	7687	3592	4095	53%

¹Affleck reported only a range of utilities.

²Bieri gave only percent of utility.

³Greif used only VCE pattern. All others used VCCE as well.

The New Research

The source of words for this study was the New Grober International Dictionary of the English Language, and all the entries were used. The procedure involved making lists of various categories of words pertinent to the VCE Rule, noting the pronunciation of the two vowels as shown in the dictionary, and deciding whether or not the word conformed to the rule. If any one of any multiple pronunciations shown indicated the proper vowel sounds (long and silent) the word was considered as conforming. The following categories of words were listed:

1. All words with VCE, VCCE, VcdE and VCCCE ending patterns, such as lake, dance, clothe, battle, and nestle.

Such words would be considered pertinent with the most liberal interpretation and application of the rule. Not included were words in which there were several vowels plus the CE ending, such as noodle, gouache, and choice.

2. All single syllable words with two vowels, one of which is the final e, with the VCE ending pattern only, such as pike, tale and hole.

These words would be considered pertinent by those who make the strictest interpretation and application of the rule.

3. All multi-syllable words with a VCE ending pattern, such as substantive, before, etc.

With a rule that reads "When there are two vowels, one of which is a final e, the first vowel is long and the final e is silent," it is not clear that it applies to a word or a syllable. Thus those who are inclined to be a bit liberal, extend it to apply to syllables in multi-syllable words, which is widely done.

4. All one syllable words with two vowels, one being the final e, with the VCCE ending pattern, such as dance, change, budge, etc.

With a rule which reads "When there are two vowels, one of which is a final e," it isn't clear that there must be only one consonant between them. All the previous researchers mentioned in this paper used VCCE as well as VCE.

5. All multi-syllable words with a VCCE ending pattern such as abso-
lute, advance and airborne.

Again, as under category three, it is not clear from the way the rule reads whether it applies only to words, or to syllables as well. It is generally interpreted to apply to both words and syllables.

6. All two-syllable words with two vowels, one being the final e in the VCCCE pattern, such as cattle, nestle, and rattle.

Again, with a rule that reads, "When there are two vowels, one of which is a final e . . .", it seems clear that words such as these are words to which the rule applies. There is no mention of how many consonants may occur between the vowels. Many of these are pronounced as nes'l, cat'l, etc., almost as one syllable.

7. All three syllable words ending with a VCCCE pattern, such as astraddle, untangle, and befuddle.

Those who consider that the rule applies to syllables as well as words would apply the rule to words such as these. In addition, they usually are a word under category six, plus a prefix. If they're appropriate under number six, they should be here too.

8. All one syllable words with two vowels one of which is the final e in a VcdE ending pattern, such as lathe, tithe and niche.

To the extent that one considers consonant digraphs to be regarded as one symbol (as is widely done), including words such as these is done for the same reason as words such as late, tile and nice are.

9. All three syllable words with two vowels, one of which is the final e in a VcdE ending pattern, such as catastrophe, etc.

Since the rule isn't clear whether it applies to words only, or to syllables as well, these words appear to be pertinent for application of the rule.

10. These words are a regrouping of categories 2, 4 and 8. It represents words which children are likely to consider quite obvious ones to apply the rule. This grouping probably obtains the highest percent utility of any grouping. They are all one syllable with only two vowels.
11. These words are a regrouping of categories 2, 4, 6 and 8. These are all words with only two vowels, and quite obviously pertinent to application of the rule. They include both one and two syllable words.

12. All words in the dictionary that appear appropriate for the rule, except those in category 10 and 11 above. This is somewhat similar to category one, with the highest utility groups removed.

The findings of this current research project are shown, by category, in Table II which follows.

Table II

Utility of the VCE Phonics Rule When Applied to the
Categories of Words Listed in the Lefthand Column

<u>Category of Words</u>	<u>Total Words in Category</u>	<u>Number not Conforming</u>	<u>Number Conforming</u>	<u>% of Utility</u>
1. All words with VCE, VCCE, VcdE, and VCCCE ending patterns	8,784	4,707	4,076	46.4%
2. All one syllable, two vowel words with the VCE ending pattern only	558	145	413	74%
3. All multi-syllable words with the VCE ending pattern	7,285	3,959	3,326	54.3%
4. All one syllable two vowel words with VCCE ending pattern	215	166	49	22.8%
5. All multi-syllable words with the VCCE ending pattern	887	835	52	5.9%
6. All two syllable, two vowel words with the VCCCE ending pattern	294	294	0	0%
7. All three syllable words ending in the VCCCE pattern	46	46	0	0%
8. All one syllable, two vowel words ending in a VcdE pattern	23	11	12	52%

Table II (cont'd)

<u>Category of Words</u>	<u>Total Words in Category</u>	<u>Number not Conforming</u>	<u>Number Conforming</u>	<u>% of Utility</u>
9. All three syllable words with a VcdE ending pattern	38	34	4	10.5%
10. All one syllable, two vowel words ending in VCE, VCCE, and VcdE patterns	796	322	474	59.5%
11. All two vowel, one and two syllable words ending in VCE, VCCE, VCCCE and VcdE patterns	1,090	616	474	43.5%
12. All words except those in #10 and #11 above	7,658	4,091	3,602	47%

The most likely groups of words to which children would apply the rules would be those in categories 2, 10, 11 or 3, probably in that order of preference. They just look like the right kind of words for the rule. Those categories are:

All one syllable, two vowel words with the VCE ending pattern only, 74% (category #2, above)

All one syllable words with any of these ending patterns, VCE, VCCE, VCCCE and VcdE, 59% (category #10, above)

All two vowel, one and two syllable words ending in VCE, VCCE, VCCCE and VcdE patterns, 43% (category #11, above)

All multi-syllable words with the VCE ending pattern only, 54% (category #3, above)

After those four, the next most likely application of the rule would be to the entire group of apparently pertinent words, which is category number one, 46%

It should be pointed out that the highest utility is 74%, and

that is just short of the 75% cut-off point used by all seven of the previous researchers. No one knows why 75% was set as the criteria, below which it is recommended phonics rules should not be taught. Actually, it is a very liberally low level. Other than a 75% chance of winning a lottery, etc., there aren't many things in life we'd be willing to buy or guide our decisions by if we were assured they'd work only three times out of four. Try making a list.

As you may have noticed, using as many categories of words as I did allowed me to show that happens to the utility as the VCE Rule is modified so as to apply to certain smaller and larger groups of words. Except for the case of all one syllable two vowel words ending in VCE only, which has 74% utility, none of the rest is much better than applying it to the largest groups of apparently pertinent words. Only one group is just slightly higher in utility.

Referring back to the 53% utility obtained in the original study reported in 1980, this major revision shows that 53% was quite accurate. No matter which way you cut it, except for one group of 558 words, the utility is hardly any better than 50-50. So, no more disbelief (nor anonymous nasty letters either!) please. Let us accept the facts and find a new way to help children with these words. No matter how all of us were taught, eventually we all committed them to memory and used instant recall of them when needed in reading. That works. And most of us accomplished this by ourselves long before we left elementary school. Using the dictionary works too. Permit me to quote the final paragraph in the 1980 article, verbatim:

The results of this study are conclusive, and considering the unusually complete scope of the study as well, it seems safe to say the VCE rule is so undependable that it should never again be taught . . . to children.

It is still an appropriate ending for that report, and for this report as well.

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